

Thematic Guidelines on
Urban and Regional Development
Second Edition

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Japan International Cooperation Agency
Infrastructure and Peacebuilding Department



Thematic Guidelines on Urban and Regional Development Second Edition

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Preface

These Thematic Guidelines on Urban and Regional Development provide overview of urban and regional development, development assistance trends, approaches, and methodologies, and present the direction of JICA's cooperation. These Guidelines are expected to share basic information and knowledge on urban and regional development among all parties concerned, and to serve as a reference for formulating, planning, appraising, and implementing cooperation projects.

These Guidelines are published on the JICA Knowledge Site to reach a wider audience and help the public understand the basic concept of JICA's urban and regional development.

Following the first edition published in March 2007, this second edition is updated to reflect the latest trends in urban and regional development and the direction of JICA's cooperation in the sector. This revised version incorporates the policies and future challenges presented in "Urban Growth for Inclusive and Dynamic Development" issued by JICA in February 2013 and the Project Study "Research on Sustainable Cities in Developing Countries" published in March 2015. These reports can be referred to for further information.

February 2017

Reference website:

Urban Growth for Inclusive and Dynamic Development, February 2013 (Japanese and English)

http://www.jica.go.jp/activities/issues/urban/ku57pq0000162yt1-att/toshi_ja.pdf

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Research on Sustainable Cities in Developing Countries, March 2015 (Japanese only)

<http://libopac.jica.go.jp/images/report/P1000022672.html>

Second Edition Working Group

• Taskforce Members

Yuichi Sugano, Deputy Director General, Urban and Regional Development Group, Infrastructure and Peacebuilding Department

Susumu Yuzurio, Director, Team 1, Urban and Regional Development Group, Infrastructure and Peacebuilding Department

Kazumasa Sanui, Director, Team 2, Urban and Regional Development Group, Infrastructure and Peacebuilding Department

• Cooperative Authors

Takeo Ochi, Senior Advisor

Tetsuji Goto, Senior Advisor

Maki Morikawa, Senior Advisor

Atsutoshi Hirabayashi, Senior Advisor

Junichi Miura, Team 1, Urban and Regional Development Group, Infrastructure and Peacebuilding Department (* currently relocated)

• Secretariat Members

Naomichi Murooka, Team 1, Urban and Regional Development Group, Infrastructure and Peacebuilding Department

Masahiko Egami, Team 2, Urban and Regional Development Group, Infrastructure and Peacebuilding Department

Naoki Mine, Team 2, Urban and Regional Development Group, Infrastructure and Peacebuilding Department

Phan Le Binh, Team 1, Urban and Regional Development Group, Infrastructure and Peacebuilding Department (* currently relocated)

Yukinari Tanaka, Team 2, Urban and Regional Development Group, Infrastructure and Peacebuilding Department (* currently relocated)

Development Objectives Chart

These Thematic Guidelines include Development Objectives Chart, a tree diagram of development issues (see below), to offer a comprehensive view of issues and general approaches to addressing them. This Chart is compiled as a tool to illustrate the overall structure of each development issue and to deliberate policies, strategies, and specific actions to solve it. This Chart can be referred to when reading the main chapters of these Thematic Guidelines, which illustrate the mid-term objectives and their sub-targets by providing specific examples.

Development Objectives	Mid-term Objectives	Sub-targets of Mid-term Objectives	Examples of Means for Achieving Sub-targets	
1. Urban development	1) Systematic urban development to support economic activities	(i) Urban framework planning from a medium- to long-term perspective	<ul style="list-style-type: none"> • Formulation of urban development visions and strategies • Formulation of urban development master plans • Formulation of urban transport master plans 	
		(ii) Optimal infrastructure development planning based on data and scientific analysis	<ul style="list-style-type: none"> • Fact finding and analysis of target cities • Development of topographical maps and GIS databases • Setting of social and economic frames • Demand forecasting • Formulation of land-use plans • Formulation of infrastructure development plans 	
		(iii) Public transit-oriented development (TOD)	<ul style="list-style-type: none"> • Formulation of urban transport master plans (modal shift to a public transport-oriented city structure) 	
		(iv) Infrastructure development to facilitate economic activities	<ul style="list-style-type: none"> • Social and economic infrastructure development planning to contribute to improving the investment environment • Promotion of development of commercial and urban centers (e.g. city centers) • Redevelopment of old urban areas to create a better urban environment • Planning and development of energy, communications, water supply, sewage, and other infrastructure systems 	
		(v) Linkages with local communities	<ul style="list-style-type: none"> • Implementation of strategic environmental assessment • Promotion of resident participation in development from the planning stage • Promotion of information disclosure on urban development to private companies and residents 	
	2) Creation of a better living environment	(i) Planning and institutional development to improve the living environment	<ul style="list-style-type: none"> • Planning for improvement and maintenance of the living environment, environmental improvement studies and planning for densely built-up urban areas (demolition of defective houses, development of roads, parks, and other infrastructure, construction of improved houses for former dwellers, etc.) • Enactment of urban planning, land-use planning, zoning, building agreement laws and improvement and development of land systems • Promotion of land readjustment projects • Research studies and technical guidance for development of building codes and improvement of housing quality • Establishment of regulations and guidance systems for private housing developers and builders • Provision of public housing • Development of housing finance schemes 	
			(ii) Countermeasures for informal sector problems	<ul style="list-style-type: none"> • Support for land-use right system development (support for land ownership of residents) • Improvement of housing • Finance to community groups (microfinance)
			(iii) Improvement of the sanitary environment	<ul style="list-style-type: none"> • Promotion of planning and development of sewage and solid waste management facilities • Air and water pollution control
		3) Creation of low-carbon cities	(i) Transformation of the urban structure	<ul style="list-style-type: none"> • Urban planning to promote transformation to a compact city
			(ii) Promotion of the use of urban public transport	<ul style="list-style-type: none"> • Formulation of urban transport master plans to promote a modal shift to public transport • Technical cooperation for public transport development and

			urban transport management capacity building (introduction of transportation demand management (TDM) measures)
		(iii) Creation of a recycling-oriented society / promotion of energy-saving measures	<ul style="list-style-type: none"> • Promotion of planning and development to improve the efficiency of power distribution, reduce the amount of unaccounted-for water, facilitate the effective use of waste materials, etc. • Support for energy-saving housing
		(iv) Preservation and creation of green spaces	<ul style="list-style-type: none"> • Green space planning to promote the planting of roadside trees and the development of city parks • Planning and development of parks
	4) Creation of disaster-resilient cities	(i) Urban development that prevents and controls damage on vulnerable people	<ul style="list-style-type: none"> • Urban planning that takes into account disaster hazards and risks in densely built-up residential areas • Enhancement of disaster resilience of urban facilities • Support for planning and implementation of disaster management measures • Fireproofing of buildings
		(ii) Immediate emergency response, recovery, and reconstruction after disaster strikes	<ul style="list-style-type: none"> • Recovery and reconstruction studies • Hazard mapping and planning and development of urban disaster prevention facilities
	5) Appropriate urban management	(i) Urban development management	<ul style="list-style-type: none"> • Formulation of urban development master plans, land-use zoning, establishment of development permit systems • Setting of land-use incentives (land-use rezoning, deregulation of architectural styles, municipalities' land-use planning, tax reduction and exemption, subsidies, etc.) • Support for developing land ownership and registration systems and strengthening the capacity of the central government to support local authorities • Strengthening of cooperation mechanisms among urban public service providers • Establishment of information disclosure and sharing mechanisms among relevant organizations • Establishment of information/data development/update systems
		(ii) Securing of financial resources and introduction of private capital	<ul style="list-style-type: none"> • Exploration of the possibility of privately financed public-private partnerships • Strengthening of the financial basis for urban development
		(iii) Maintenance and management of urban infrastructure	<ul style="list-style-type: none"> • Capacity building for construction quality management and facilities operation and maintenance • Development of mechanisms for efficient operation of urban facilities (collaboration among local governments)
	6) Post-conflict urban reconstruction	(i) Formulation of comprehensive reconstruction master plans	<ul style="list-style-type: none"> • Recovery and reconstruction studies • Creation and collection of topographical maps and other basic data
		(ii) Quick recovery and reconstruction of community lifeline infrastructure	<ul style="list-style-type: none"> • Support for reconstruction of basic infrastructure
		(iii) Restoration and reconstruction of economic infrastructure that serves as a driving force for recovery	<ul style="list-style-type: none"> • Support for reconstruction of economic infrastructure

Development Objectives	Mid-term Objectives	Sub-targets of Mid-term Objectives	Examples of Means for Achieving Sub-targets
2. Regional development	1) Regional development based on a medium- to long-term development vision / growth scenario	(i) Development of basic databases	<ul style="list-style-type: none"> • Fact finding and analysis of target regions • Creation of topographical maps • Development of GIS databases
		(ii) Formulation of regional development strategies	<ul style="list-style-type: none"> • Setting of social and economic frames • Formulation of land-use plans • Formulation of infrastructure development plans • Promotion of participatory regional development • Formulation of regional development master plans
	2) Regional economic development and investment promotion	(i) Promotion of local industries	<ul style="list-style-type: none"> • Development and promotion of local industries • Revitalization of local industrial and service sectors • Revitalization and promotion of agriculture, forestry, fisheries, and manufacturing industries
		(ii) Institutional development for investment promotion	<ul style="list-style-type: none"> • Attraction of outside industries • Legal and institutional development to attract outside industries • Promotion of tourism-related industries
		(ii) Infrastructure development to facilitate economic activities	<ul style="list-style-type: none"> • Development of industrial parks • Development of economic infrastructure (roads, bridges, ports, railways, airports, power generation/transmission/distribution facilities, gas pipelines, telecommunications facilities, irrigation facilities, etc.)
	3) Inclusive and effective infrastructure development including social infrastructure	(i) Inclusive social infrastructure development to improve the living standards	<ul style="list-style-type: none"> • Development of social infrastructure (water supply and sewage systems, schools, medical institutions, and other facilities essential to daily life) • Regional networking of public and social service providers (public health, education, etc.)
	4) Strengthening of regional economic and social linkages and reduction of regional disparities	(i) Promotion of the corridor development approach	<ul style="list-style-type: none"> • Formulation of corridor development master plans • Development of planning and implementation mechanisms for regional infrastructure development centered on corridors
	5) Institutional development and capacity building for regional development	(i) Strengthening of administrative and coordination capacity of local governments to promote regional development	<ul style="list-style-type: none"> • Planning, implementation, management capacity building • Administrative capacity building for local governments • Preparation of manuals to promote regional development • Collection of statistics and establishment of regular update mechanisms • Development of GIS databases and creation of topographical maps • Promotion of resident participation in regional development planning • Support for and strengthening of community activities
		(ii) Support for decentralization	<ul style="list-style-type: none"> • Development of relevant systems and guidelines
		(iii) Strengthening of regional collaboration	<ul style="list-style-type: none"> • Development of trans-regional organizations and strengthening of collaboration mechanisms • Promotion of cross-sectional efforts
		(iv) Human resources development	<ul style="list-style-type: none"> • Development of human resources involved in regional development (quantity improvement) • Quality improvement of human resources involved in regional development

Chapter 1. Overview of Urban and Regional Development

Developing countries are facing rapid urbanization. Although cities serve as an engine for national and regional growth, when they fail to keep pace with the rapid urbanization process, the lack of urban infrastructure may cause poor mobility and environmental degradation, expose their vulnerability to natural disasters, create poverty, and increase disparities. Some cities may even fail to perform their intended functions and roles.

Without the healthy growth of cities with most of the world's population, the international community cannot achieve the Sustainable Development Goals (SDGs) or solve the global warming problems. In fact, the SDGs include Goal 11 to “make cities and human settlements inclusive, safe, resilient and sustainable” and set targets for cities and their surrounding regions to achieve. It is vital to promote urban and regional development efforts to this end while taking on other challenges such as quality infrastructure development.

1-1. Current state of urban and regional development

(1) Background of cooperation in the urban and regional development sector

1) Rapid urbanization in developing countries

According to the estimates of the United Nations (UN), the world population doubled over the last 45 years, from 3,690 million in 1970 to 7,350 million in 2015¹. This was mainly attributed to population growth in developing countries, especially in their urban areas. The urban population of developing countries expanded over four times from 680 million (18% of the global population) in 1970 to 3,600 million (49% of the global population) in 2015². It is projected that in 2050, the world's population will reach 9,550 million, of which 66.4 percent will live in urban areas³. At that time, 5,230 million people (82.4% of the global urban population and 53.8% of the global population) will live in cities in developing countries. Thus, the urban population is expected to grow more than seven times only over eight decades. Such rapid urbanization as mentioned above is unprecedented in the history of developed countries.

2) Cities serving as a driving force for economic development

In most countries around the world, cities serve as important economic centers that drive the growth of their respective countries. For example, in Asia, the population residing in urban areas accounts for 42% of the region's total population, but the values of the goods and services produced there represents more than 80% of the

¹ The world's population figures in 2015 and 2050 are based on the UN World Population Prospects 2015 Revision.

² The figures are based on the UN World Population Prospects 2015 Revision. It shall be noted that the report categorized the world into two parts: more developed regions and less developed regions. In these Thematic Guidelines, the latter (less developed regions) are referred to as developing countries. The less developed regions were further divided into least developed countries and other less developed countries, with their urbanization rates as of 2015 being 31% and 52%, respectively.

³ The urbanization rates and urban populations are based on the UN World Urbanization Prospects 2014 Revision since the World Population Prospects 2015 Revision does not have data on urbanization rates in 2050. The urbanization rates were calculated by dividing the urban population by the total population, but it is noted that the urban population was defined in different ways depending on the country.

region's total economy (as of 2008). Effective economies of scale and agglomeration are essential to modern industrialization, and cities are expected to play a role as a driving force for economic development.

Efforts to expand the benefits of urbanization and to promote the healthy development of cities will contribute to future economic development and poverty reduction in developing countries.

3) Relationship between cities and regions

Cities play a key role in their respective countries and regions. The development and prosperity of cities can make a positive impact, stimulating surrounding regions. On the other hand, when urbanization proceeds too much or too fast in a short duration, it often outpaces infrastructure and institutional development. This may cause various urban problems, such as poor living environments, traffic congestion, deteriorated public safety, and formation of squatter settlements and slums. These problems may in turn cause a negative impact on surrounding regions. Moreover, regional economic downturns and slow social infrastructure development in rural areas may create a wave of mass migration from rural to urban areas.

Thus, “concentration and expansion” in urban areas and “hemorrhage and stagnation” in rural areas are closely related to each other; therefore, it is critical to adopt a wider perspective encompassing the whole country or region and recognize rural and urban issues by linking them with each other.

(2) Challenges faced by cities and regions in developing countries

In cities in developing countries, rapid urbanization has aggravated urban problems, as mentioned above, and threatened the sustainability of urban growth. Cities with concentrated populations and economic activities have a huge impact on climate change and other global environmental problems. Overconcentration in capital and metropolitan cities, as typically seen in developing countries, may pose a serious obstacle to regionally balanced, sustainable development.

In order to achieve the sustainable development of cities without compromising the sustainability of the global environment, urban problems should be addressed more strategically than ever before. Such efforts shall take into consideration not only the cities in question but also their relationships with surrounding urban and rural areas and explore the ideal form of urban and regional development.

1) Lack of urban infrastructure and facilities and degradation of living environments due to population concentration

Although urbanization is an essential factor to the economic growth of developing countries, when it is not accompanied by sufficient economic infrastructure development and job creation, economic growth will slow down, and the negative aspects of urbanization will come to surface.

For example, in developing countries, many urban areas experience uncontrolled urban sprawl as the rapid concentration of population outpaces the systematic development of urban facilities, such as roads, water supply and sewage systems, power distribution networks, and waste management facilities. This often leads to the formation of low-income population settlements with poor-quality housing and with no access to basic daily necessities in suburbs. The lack of urban facilities also poses various problems in city centers, such as severe traffic congestion, road

floods after rain, and large amounts of uncollected garbage in public spaces. The lack of urban infrastructure causes not only economic problems, such as low industrial productivity and poor investment climates, but also social problems, such as frictions between slum-dwellers/squatters (people illegally occupying deserted buildings/houses and private lands in city centers) and other local residents. These problems may impede the sustainable development of cities. Municipalities need to build comprehensive management capacity to address these challenges and provide necessary municipal services, whereas they are facing a shortage of human resources.

2) Widening disparities between the rich and poor within cities

Urbanization has various positive impacts, such as stimulating economic activities, triggering social and cultural changes, and contributing to social and economic development, not only of the city itself but also of the country as a whole. However, these benefits of urbanization are likely to go to a few, instead of being evenly distributed to all those living and working in the city, unless appropriate policy interventions are made by the central and local governments (e.g. land-use regulation to control development, infrastructure development to improve the living environments of low-income people, and public transport improvement).

The Global Risks Report of the World Economic Forum points out that although rapid urbanization can accelerate development, if it is not controlled properly, it can also cause negative impacts, such as widening income disparities, unbalanced labor markets, social unrest, and social and economic degradation.

3) Increasing disaster risks due to climate change

Global climate change has caused negative impacts, such as frequent torrential downpours and rising sea levels, which has increased the number and scale of meteorological disasters. When the frequency and severity of abnormal weather exceed the maximum tolerance set for social infrastructure (e.g. rainwater drainage systems designed to prevent floods) based on past hazards and disasters, massive damage can occur. Cities are especially vulnerable due to the high density of population and the concentration of assets and activities. In particular, socially vulnerable people are prone to the effects of climate change because they tend to live in areas susceptible to natural disasters.

4) Widening regional disparities and declining growth potential due to the overconcentration of economic activities and population in cities

In many of the developing countries experiencing robust economic growth, it is driven by large cities that are accessible enough to serve as trading hubs and attract large populations and economic activities. On the other hand, in inland and rural areas difficult to access, the lack of core infrastructure, such as logistics and power supply facilities, prevents the potential of industries from being reached and slows down development. These disparities between urban and rural agricultural areas will cause a vicious circle of accelerated immigration into cities, overconcentration in metropolitan areas, and further widening regional disparities. As a result, urbanization and overconcentration will make cities prone to new disaster risks and economic inefficiency. Such cities, along with declining rural areas, are likely to undermine the growth potential of the country.

5) Lack of integrated management beyond national and municipal borders

In a world where cultural, economic, and trade interactions are stretching out, industrial and infrastructure development requires regional collaboration beyond national and municipal borders. Nevertheless, many developing countries lack national and regional development plans as legal frameworks and have limited mechanisms for collaboration between cities and their surrounding regions. These factors have caused obstacles to region-wide industrial promotion and efficient infrastructure development. Moreover, while globalization is accelerating the transborder flows of people and goods, the lack of hard infrastructure, such as cross-border roads, and the underdevelopment of soft infrastructure, such as customs clearance procedures, have caused a bottleneck in logistics.

1-2. Definition of urban and regional development

The terms “urban” and “region” are defined and interpreted in various ways across different countries and societies, but they are commonly defined as a bounded area or territory. In these Thematic Guidelines, urban development is defined as the development of an “area settled by large numbers of people and, as a result, extremely densely populated” and an “economic, political, and cultural center serving as a hub of transport arteries.” Regional development is defined here as the development of an “area facing regional problems and/or needs that cannot be addressed by a single urban area” and a “wide area encompassing urban and rural areas.” Regional development sometimes covers a wider area beyond national borders.

1-3. International development guidelines

This section describes recent international guidelines for urban and regional development: Sustainable Development Goals (SDGs); Paris Agreement (COP21); Habitat III; and Sendai Disaster Risk Reduction Framework 2015-2030. Although this section focuses on the four principal guidelines, it is expected that in our urbanizing world, various other international and regional guidelines on urban and regional development will be discussed and formulated. In the process of formulating urban and regional development plans or collaborating with other donors and partners, attention should be paid to consistency with these international development guidelines as well as international and regional trends and movements in the urban and regional development sector.

(1) Sustainable Development Goals (SDGs)

In September 2015, the UN General Assembly adopted a resolution “Transforming Our World: the 2030 Agenda for Sustainable Development,” comprising 17 Sustainable Development Goals (SDGs) and 169 targets. Among them, Goal 11 focuses on urban development, setting targets for sustainable cities as follows.

Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable
11.1 By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums
11.2 By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with

	special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons
11.3	By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries
11.4	Strengthen efforts to protect and safeguard the world's cultural and natural heritage
11.5	By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations
11.6	By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management
11.7	By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities
11.a	Support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning
11.b	By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015–2030, holistic disaster risk management at all levels
11.c	Support least developed countries, including through financial and technical assistance, in building sustainable and resilient buildings utilizing local materials

(2) Paris Agreement (21st Conference of the Parties to the UN Framework Convention on Climate Change; COP21)

The Paris Agreement was adopted in Paris, France, on December 12, 2015, as an international framework for global warming control from 2020. The Agreement aims at “holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels” and refers to “the adoption of the Sendai Framework for Disaster Risk Reduction” (in Decisions adopted by the Conference of the Parties). In relation to urban and regional development, the Agreement calls for increasing efforts to facilitate low-carbon development in cities that have a huge impact on the global environment, prevent and mitigate exposure and vulnerability to hazards, and strengthen preparedness for emergency response and recovery.

The Paris Agreement includes the following:

- Introducing not only a 2°C target but also a 1.5°C target as the world's common long-term goal;
- Requiring all Parties, including major emitting countries, to submit their emissions reduction targets and update them every five years thereafter, monitor and report the progress in a common and flexible way, and receive feedback;
- Including the use of the JCM (Joint Crediting Mechanism) and other market-based mechanisms;
- Recognizing the importance of preserving and enhancing greenhouse gas sinks and reservoirs such as forests and promoting the REDD (Reducing Emissions from Deforestation and Forest Degradation in Developing Countries);
- Setting long-term adaptation targets and implementing national adaptation plan processes and activities;

- Encouraging developing countries to make voluntary contributions while calling on developed countries to continue to provide finances;
- Recognizing the critical role of innovation;
- Developing a mechanism to take stock of the global situation every five years;
- Using not only the number of Parties but also the volume of emissions as requirements for the entry into force of the Agreement; and
- Referring to the Sendai Framework for Disaster Risk Reduction (in Decisions adopted by the Conference of the Parties).

(3) Habitat III (UN Conference on Human Settlements)

The UN Conference on Human Settlements is an official conference where representatives from national and local governments, non-governmental organizations, and international agencies discuss solutions to issues related to human settlement, including problems emerging with rapid urbanization in developing countries.

The First UN Conference on Human Settlements (Habitat I) was held in Vancouver in 1976. Against the backdrop of increased and accelerated migration from rural to urban areas and rapid urban population expansion, the conference recognized creating sustainable settlements and coping with over-urbanization in developing countries as challenges faced by the international community. The conference adopted the Vancouver Declaration on Human Settlements based on the common perception that human settlement policies to develop urban environments and improve the quality of life would be essential to protecting human rights.

The Second UN Conference on Human Settlements (Habitat II) was held in Istanbul in 1996, adopting the Habitat Agenda and the Istanbul Declaration on Human Settlements to provide basic guidelines on human settlement issues. The Habitat Agenda was a global action plan to provide adequate human settlements for all in an urbanizing world. The conference also brought renewed attention to the importance of sustainable human settlements, cities serving as an engine for global economic growth, the critical roles of local governments, and the significance of participatory development.

The Third UN Conference on Human Settlements (Habitat III) was held in Quito in October 2016. Reflecting the outcomes that each country had achieved during the two decades since the last meeting, the conference adopted the New Urban Agenda, a set of international strategies to solve a wide range of issues related to human settlements by strengthening links from rapid urbanization to growth.

(4) Sendai Framework for Disaster Risk Reduction 2015-2030

The Sendai Framework for Disaster Risk Reduction 2015-2030 is a new international framework for disaster risk management adopted as the successor instrument to the Hyogo Framework for Action at the Third UN World Conference on Disaster Risk Reduction, held in Sendai in March 2015 and attended by 185 UN Member States. Its preamble states that it is urgent and critical to anticipate, plan for and reduce disaster risk and strengthen resilience against disasters and calls for enhanced work to prevent the creation of new disaster risks, more dedicated action focused on tackling underlying disaster risk drivers, “Build Back Better” supported by strengthened modalities of international cooperation, and broader and more people-centered preventive approaches. The Sendai Framework aims to achieve “the substantial reduction of disaster risk and losses in lives, livelihoods and health and in

the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries” and “prevent new and reduce existing disaster risk through the implementation of integrated and inclusive economic, structural, legal, social, health, cultural, educational, environmental, technological, political and institutional measures that prevent and reduce hazard exposure and vulnerability to disaster, increase preparedness for response and recovery, and thus strengthen resilience” during the 15 years between 2015 and 2030.

Priorities for action in the urban development sector include the following:

- Pre-disaster risk assessment, use of geospatial information technology, and use of information and communications technology;
- Development of structural and non-structural measures, land-use plans, and building codes as investment in disaster management measures for resilience; and
- Disaster recurrence prevention measures, including the revision of land-use plans and other standards used in the recovery and rehabilitation processes, to enhance preparedness for effective emergency response and “Build Back Better.”

1-4. Japan’s development cooperation policies, etc.

Japan’s international cooperation has been structured around the following three approaches: (i) “FutureCity” Initiative to promote city and community development that realizes sustainable economic and social systems in an urbanizing world; (ii) participation in UN Conference on Sustainable Development (Rio+20) and the UN Summit that adopted the 2030 Agenda for Sustainable Development to make Japan’s views and contribution widely known; and (iii) preparation of a national report to outline Japan’s experience in human settlements and next-generation challenges in order to contribute to the Third Conference on Human Settlements (Habitat III). In addition to the above, the understanding of the following development cooperation policies is essential to facilitating urban and regional development.

(1) Development Cooperation Charter

In February 2015, the Cabinet adopted the Development Cooperation Charter as an alternative aid policy to the old Official Development Assistance Charter.

Below is the outline of the Development Cooperation Charter.

- ◆ Clarification of Japan’s philosophy on development cooperation
 - Making a proactive contribution as a peace-loving nation to the peace, stability, and prosperity of the international community
 - ✓ Contributing to the peace and prosperity of the world through cooperation for non-military purposes (avoiding any use of development cooperation for military purposes)
 - ✓ Promoting human security (focusing its development cooperation on individuals and providing cooperation for their protection and empowerment)
 - ✓ Cooperating as an equal partner with developing countries
- ◆ Development cooperation in the new era
 - Working towards the Post-2015 Development Agenda
 - ✓ Promoting “quality growth” (inclusive, sustainable, and resilient

- growth) and poverty eradication through such growth
 = Foundations for economic growth (infrastructure and human resources development, etc.), overcoming of vulnerability (human and social development), inclusiveness (disparity reduction, empowerment of women, governance, etc.), sustainability (environmental issues, climate change, etc.), and resilience (disaster risk reduction, etc.)
- ✓ Sharing universal values as a foundation for development and establishing a peaceful and secure society
 = rule of law, good governance, basic human rights, democratization, peacebuilding, capacity development of law enforcement authorities, and terrorism prevention
 - ✓ Assisting countries graduating out of ODA but facing special vulnerabilities and countries in the “middle-income trap”
 - ◆ Development cooperation serving as a catalyst → collaboration with the private sector, etc.
 - ✓ Promoting public-private partnership and collaboration with local governments, non-governmental organizations, and civil societies
 - ◆ Involvement of diverse actors in development → towards inclusive and equitable development
 - ✓ Promoting the participation of women and facilitating the participation of socially vulnerable people and all other actors in development

(2) Infrastructure System Export Strategy

The Infrastructure System Export Strategy was adopted in May 2013 at the Ministerial Meeting on Strategy Relating Infrastructure Export and Economic Cooperation, chaired by the Chief Cabinet Secretary, and later incorporated into the Japan Revitalization Strategy adopted by the Cabinet in June 2013. An outcome target was set to increase the amount of orders for infrastructure systems to approximately 30 trillion yen by 2020 (the actual amount ordered in 2010 was approximately 10 trillion yen). The Infrastructure System Export Strategy was revised in May 2016, restructured around the following six policies: (i) achievement of economic growth through infrastructure system export; (ii) spillover effects of infrastructure system export; (iii) public-private partnership efforts to thrive in competitive global markets; (iv) integrated promotion of infrastructure export, economic cooperation, and resource exploitation; (v) promotion of quality infrastructure investment; and (vi) lessons learned from the past, human resources development, and strategic international public relations.

In relation to urban development, the Infrastructure System Export Strategy proposes the following approaches to facilitate the export of packaged urban infrastructure systems drawing on the experience of Japan.

- Approach according to the development stage of each city in its timeline (drawing on the experience of Japan in developing urban infrastructure step by step in parallel with economic and population growth)
- Approach based on the perspective of comprehensive city development (proposing solutions to urban issues based on the experience in the process from overcoming pollution to creating environmentally-friendly cities, facilitating the integrated development of new cities and their transport systems by drawing on the experience in urban development along railways, etc.)

(3) Strategic Master Plans

At the Fifth Tokyo International Conference on African Development (TICAD V) held in Yokohama in June 2013, the Government of Japan committed to supporting the formulation of 10 strategic master plans in Africa to promote economic growth in the continent and to encourage private companies to participate and engage in African development. This is comprehensive development planning support including the formulation and implementation of medium- and long-term development plans over a period of more than a decade in the areas and sectors attracting the interest of Japanese firms. Japan is to actively engage itself from the master plan formulation stage. This integrated support from upstream master planning through to individual project implementation is also expected to contribute to promoting the Infrastructure System Export Strategy and quality infrastructure investment, as aimed by the Government of Japan.

With an aim to meet the expectations of both Japan and recipient countries, this initiative to formulate strategic master plans focuses on the following areas: urban development, regional development (corridor development), and power sector development.

Expectations of Japan:

- Increasing opportunities for Japanese firms to receive orders for infrastructure development projects that will draw on Japan's technology expertise
- Creating a better business environment by strengthening economic (hard and soft) infrastructure

Expectations of recipient countries:

- Promoting private investment
- Spreading the effects of development across wide areas

Chapter 2. Approaches to Urban and Regional Development

Comprising many large cities as represented by the Tokyo Metropolitan Area, Japan has a considerable experience in addressing urban development challenges that are now being faced by developing countries, such as rapid urbanization, pollution, traffic problems, and large-scale infrastructure development. Japan also has a rich experience in post-war and post-disaster reconstruction. By drawing on the experience, Japan can make a wide contribution to solving urban issues arising around the world.

2-1. Perspectives of cooperation in the urban and regional development sector

As mentioned below, urban and regional development can draw on the experience of Japan and the various assistance tools of JICA.

(1) Utilization of Japan's experience in undergoing rapid urbanization and overcoming disasters

JICA can draw on Japan's experience to support developing countries that are now facing the same difficulties and challenges as Japan did. JICA can also meet the diverse needs of developing countries by mobilizing its wide human resource network including governmental agencies, research institutions, universities, development consultants, and non-governmental organizations.

1) Experience in responding to urbanization

After the Second World War, Japan took the following measures to deal with urbanization proceeding at an unprecedented rate.

(i) Institutional and systemic development

The Japanese Government set different standards according to the scale of development, rather than establishing uniform standards for all. At the same time, informal development was prevented by measures taken by the Government. More specifically, a comprehensive urban planning and development management system was built, consisting of master planning frameworks, guidance and regulations, infrastructure and housing development, housing finance schemes, and mechanisms to facilitate cooperation and coordination of roles between the national and local governments.

(ii) Infrastructure development

Despite the rapid urbanization, Japan steadily developed infrastructure, such as sewage systems and urban road and high-speed railway networks. This was facilitated not only by the country's advanced civil engineering technologies but also by the capacity building of local government personnel and the development of facilitating mechanisms, including beneficiary-payment, subsidiary, local bond, local allocation tax, and other fiscal systems and land readjustment programs suitable for integrated

development of housing and public facilities.

(iii) Response to environmental problems

Although the rapid urban economic development caused problems such as pollution and environmental destruction, Japan overcame them by developing innovative technologies that could reduce pollution without compromising industrial productivity (e.g. energy conservation and recycling use of resources), introducing environmental regulations (e.g. air, water, noise, and vibration pollution, underground water conservation, waste management, and recycling), implementing institutional reforms to offer economic incentives, and developing essential infrastructure.

(iv) Achievement of social equality

Japan established a foundation for diverse urban dwellers to live a city life, regardless of their incomes, by making public housing, housing finance and small business finance accessible. Japan also created a system to treat all landowners equally, regardless of the amount of land they own, a mechanism to involve citizens in urban planning processes. Thus, special attention was paid to ensuring that everyone could enjoy the benefits of urban development.

2) Experience in responding to disasters

Japan's geographical, climatic, and structural features make it prone to natural hazards. Not only is it located in an area of frequent earthquakes and world-class high snowfall, but also many cities are situated in lower-lying coastal and riverside areas, and the floodplains are home to half of the population and three-fourths of the assets. In the meantime, Japan implemented comprehensive structural and non-structural disaster management measures. They ranged from disaster preparedness to protect cities from earthquakes, storms, floods, snowfalls and other various disasters (e.g. disaster education and training and development of disaster prevention facilities) to infrastructure development to improve the physical security of the nation and cities (e.g. protection of riverbanks, coastal areas, steep slopes, etc., land readjustment to develop disaster prevention spaces, and relocation of cities to higher ground) and post-disaster recovery (e.g. reconstruction of damaged facilities and establishment of disaster financing, local bond, local allocation tax, and other fiscal and financial systems). Moreover, when hit by devastating earthquakes, such as the Great Hanshin-Awaji Earthquake and the Great East Japan Earthquake, Japan went through the whole process from emergency response for minimum essentials to short-term recovery and medium-term reconstruction including regional economic rehabilitation. In due course, these repeated catastrophes led to the mainstreaming of disaster-resilient city development comprising structural and non-structural measures based on the lessons learned from the past earthquakes. These experiences of Japan are considered very valuable in urban development support.

3) Disparities reduction and development

At the beginning of the high economic growth period, the Japanese Government adopted the National Income Doubling Plan in 1960, with the ultimate goal of achieving full employment and substantially raising people's living standards. The Government also enacted the Comprehensive National Land Development Act,

based on which the National Comprehensive Development Plan was formulated in 1962. It was a national physical and spatial development plan aimed at achieving regionally balanced development through the relocation of industrial districts away from metropolitan areas, the development of hub cities, the effective use of natural resources, and the appropriate regional distribution of assets, labor, technologies, and other resources. The first and following versions of the National Comprehensive Development Plan were designed to propose (a) a grand design for the national structure, (b) regional and urban structures, (c) areas in need of infrastructure development, and (d) spatial distribution of industries to achieve the following seven objectives: (i) establish the national spatial structure; (ii) ensure equality; (iii) reduce overconcentration; (iv) ensure efficient investment; (v) provide spatial support for industrial policies; (vi) make effective use of resources; and (vii) preserve the national land.

The National Comprehensive Development Plan was later revised to suit the social needs, for example, by including the development of nation-wide highway networks and used as a guide for national development. The first five versions generally emphasized the reduction of regional disparities as a major issue resulting from distorted development. Combined with infrastructure development projects, industrial distribution policies, and prefectural and municipal ordinances, the National Comprehensive Development Plan achieved outcomes such as the reduction of regional income disparities and the development of rural centers and core cities.

Formulated in line with national economic policies, the National Comprehensive Development Plan was a comprehensive and inclusive guiding policy comprising economic frameworks such as public investment budgets, regional population and land-use macro-frames, large-scale core infrastructure development plans, and industrial and social development concepts. This planning methodology, characterized by formulating a comprehensive development plan in line with economic policies, is considered very useful for developing countries that are awaiting their growth spurts.

Meanwhile, Japan saw new challenges emerging, such as a full-scale aging society and declining population, which increased the need to promote comprehensive spatial development, including national land preservation, and facilitate the active participation of local governments in the national development planning process. In response to these circumstances, the Comprehensive National Land Development Act was replaced in 2005 by the National Spatial Planning Act, based on which the National Spatial Strategies (National Plan) were developed. The new plan was aimed to transform the national structure to facilitate self-development by creating unique regional strategies to make full use of local resources under the basic policy of “building a nation that enables diverse regional blocks to develop autonomously and that is beautiful and comfortable to live in.” Japan’s experience in developing such national spatial strategies can provide useful insights to countries facing aging populations and/or having a unipolar and uniaxial spatial or industrial structure as well as contribute to balanced national spatial development in developing countries facing similar problems.

(2) Comprehensive and integrated support from the formulation of development concepts through to the materialization and implementation of plans

JICA is distinguished from other donor agencies by its various cooperation schemes, including Technical Cooperation, ODA Loan, Grant Aid, Grassroot Technical Cooperation, and Volunteer Programs. This feature gives JICA the advantage of being able to combine different schemes to provide necessary assistance to developing countries in accordance with their needs. For example, JICA can provide the following support to meet the needs of developing countries.

(i) Formulation of development concepts

JICA's technical cooperation can support the formulation of comprehensive urban and regional development concepts (master plans). This assistance is distinguished from that of other donors by the following three features. First, JICA emphasizes the realization of plans and the use of scientific approaches. Therefore, JICA provides advice on data-based quantitative demand forecasts, key infrastructure development, and urban development management, performs risk assessment, and includes feasibility studies in the scope of cooperation. Secondly, JICA strengthens the planning and implementing capacity of counterpart organizations by involving them in the planning process. Thirdly, JICA ensures the effective implementation of the master plans developed with its counterpart organizations. Some of the plans have been approved through a national legislative process and issued as statutory instruments.

(ii) Materialization and implementation of plans

JICA provides financial assistance for comprehensive hard infrastructure development (e.g. urban transport, electric power, water supply and sewage systems, and waste disposal facilities) as well as technical cooperation for soft infrastructure development to enhance administrative capacity for urban planning, climate change mitigation and adaptation, environmental management, and disaster risk reduction.

(iii) Urban management

JICA works together with diverse stakeholders, including government officers and local residents, throughout the process from the formulation of development concepts to the materialization and implementation of plans. JICA also promotes self-development by dispatching individual experts and organizing training programs to develop human resources.

2-2. Effective approaches to urban and regional development

In light of the advantages of Japan, this section describes approaches that help developing countries solve the urban and regional development issues described above in Chapter 1. These approaches should be selectively combined to formulate a comprehensive urban or regional development program.

(1) Effective approaches to urban development

1) Systematic urban development to support economic activities

JICA formulates an overall master plan that covers the whole city, based on which JICA implements infrastructure development given priority in accordance with the city's overall development strategies and the needs of private sector's economic activities. Thus, JICA promotes urban development, including the distribution of industries, to create a desirable urban structure.

- (i) **Urban framework planning from a medium- to long-term perspective**
JICA formulates a master plan that can facilitate appropriate land-use and industrial restructuring to support the dynamic development of the target city (to maintain a virtuous circle of economic growth and poverty reduction). The development of such a plan requires a medium- to long-term perspective to define the ideal form of the target city in accordance with its characteristics and roles, articulate the vision and scenario of development, and increase the integration and efficiency of urban functions for efficient infrastructure development.
- (ii) **Optimal infrastructure development planning based on data and scientific analysis**
JICA formulates core infrastructure development plans by considering how to develop an appropriate framework for planning based on demand forecasts, how to establish an effective network of infrastructure systems, and how to strengthen the maintenance capacity of infrastructure management entities. JICA also considers planning based on data such as traffic volumes, introducing public transport systems that can solve traffic congestion and other problems, strengthening traffic management capacity, and facilitating the systematic development of information and communications facilities and their use in infrastructure development and management (e.g. using the facilities to ensure the efficient supply of energy). Moreover, JICA uses data obtained through detailed socio-economic surveys for planning purposes in order to distribute the benefits of infrastructure development more widely, rather than limiting them to a selected group of people.
- (iii) **Transit-oriented development (TOD)**
In some cities, quick urbanization, urban sprawl, and rapidly increasing automobile traffic have caused negative social, economic, and environmental impacts. JICA develops a plan to promote a modal shift to a public transport-oriented society and a plan to transform the city structure overly dependent on automobile transport in accordance with the needs of infrastructure development.
- (iv) **Infrastructure development to facilitate economic activities**
JICA's master plan formulation support analyzes private investment trends and investment obstacles and incorporates planning of electricity and water supply for economic activities as well as appropriate industrial waste management in order to help create an investment environment that can ensure stable business operations in urban areas.

(v) Linkages with local communities

Infrastructure development should be designed not to cause any adverse impact on local environments and communities and to distribute the benefits of economic activities across local communities (by creating job opportunities, etc.), rather than limiting them to a selected group of people such as investors. Therefore, JICA gives social and environmental considerations, for example, by performing strategic environmental assessment to prevent negative impacts on local communities as well as to develop a mechanism to facilitate the redistribution of benefits. This approach also includes creating a mechanism to involve diverse local stakeholders throughout the decision-making process from the master plan formulation stage and developing approaches to promote the mechanism.

JICA's cooperation in the urban and regional development sector	
(i) Urban framework planning from a medium- to long-term perspective	<ul style="list-style-type: none"> • Support for urban development master plan formulation • Support for urban transport master plan formulation • Training on urban planning and comprehensive urban development planning <p><u>Examples of cooperation projects</u></p> <ul style="list-style-type: none"> - The Study on Master Plan and Urban Development Program of Ulaanbaatar City (Mongolia; 2007/2-2009/3)
(ii) Optimal infrastructure development planning based on data and scientific analysis	<ul style="list-style-type: none"> - Project for Urban Development Master Plan Study in Vientiane Capital (Laos; 2010/1-2011/3) - Project for the Development of Urban Master Plan in Greater Abidjan (Cote d'Ivoire; 2013/2-2015/3)
(iii) Transit-oriented development (TOD)	<ul style="list-style-type: none"> - Project on Improvement of Urban Transportation of Danang City (Viet Nam; 2013/4-2016/3) - Knowledge Co-Creation Program (Group and Region-Focus) Courses on Comprehensive City Planning; Public Participation, Consensus Building and Resettlement in Public Works Projects; and Comprehensive Urban Transportation Planning
(iv) Infrastructure development to facilitate economic activities	<ul style="list-style-type: none"> • Facilitation of interviews with private companies in urban development master planning processes <p><u>Examples of cooperation projects</u></p> <ul style="list-style-type: none"> - Project For Updating Dakar Urbanization Master Plan by the Horizon 2025 (Senegal; 2014/8-2016/2) - Project for Formulation of Comprehensive Development Master Plan in the Mombasa Gate City (Kenya; 2015/3-2017/3)
(v) Linkages with local communities	<ul style="list-style-type: none"> • Performance of strategic environmental assessment in urban development / transport master planning processes • Promotion of resident participation in planning processes <p><u>Examples of cooperation projects</u></p> <ul style="list-style-type: none"> - Project on Integrated Urban Development Master Plan for the City of Nairobi (Kenya; 2012/11-2014/1)

2) Creation of a better living environment

In cities, poor living environments are mostly caused by the concentration of population in areas with underdeveloped urban infrastructure. This problem is expected to worsen in developing countries as the population continues to grow. It

is therefore increasingly important to support community activities and develop plans and systems for poor and vulnerable people who are susceptible to the effects of poor living conditions caused by urbanization.

- (i) **Planning and institutional development to improve the living environment**
While the urban concentration of population often leads to poor living conditions, the congregation of industries and people in cities can drive economic growth and enable people to earn higher incomes. These seemingly contradictory issues can be solved by making effective use of the limited urban space. This can be achieved by drawing up an urban planning including land-use planning and housing planning, and its implementation can be facilitated by developing and enforcing legal frameworks including land readjustment.

- (ii) **Countermeasures for informal sector problems**
The improvement of highly populated slums cannot be achieved only through infrastructure development. Therefore, JICA supports institutional development and capacity building so that developing countries can continuously and autonomously address informal sector problems.

- (iii) **Improvement of the sanitary environment**
Water-related hygiene problems threaten human health. Wastewater treatment is essential to improve the living environment and prevent infectious diseases caused by water contaminated with pathogenic microbes. Although environmentally friendly treatment options, such as ecological sanitation (it is a process that uses microorganisms to treat wastewater to prevent soil and water contamination; in some cases, the decomposed materials can be used as fertilizer), are available in rural areas with low population density, collective sewage treatment is the primary solution in major cities with high population density.
Another serious problem faced by developing countries in waste management is final disposal of solid waste in large cities. Improvement planning should involve social considerations as many of the waste disposal workers are socially vulnerable.

JICA's cooperation in the urban and regional development sector	
(i) Planning and institutional development to improve the living environment	<ul style="list-style-type: none"> • Planning with an eye toward the improvement and maintenance of the living environment • Promotion of land readjustment projects • Support for the formulation of urban planning / land-use planning and the preparation of development management guidelines <p><u>Examples of cooperation projects</u></p> <ul style="list-style-type: none"> - Project for Self-Sustainability and Dissemination of Land Readjustment System (Thailand; 2010/7-2014/3) - Project on Capacity Development in Urban Development Sector (Mongolia; 2010-2013) - Project on Capacity Development for Land Readjustment in Curitiba (Brazil; 2013/2-2016/1) - Knowledge Co-Creation Program (Group and Region-Focus) Course on the Land Readjustment Method for Urban Development

(ii) Countermeasures for informal sector problems	<ul style="list-style-type: none"> • Technical cooperation for housing for low-income households • Support for the formulation of urban planning / land-use planning and the preparation of development management guidelines to improve unplanned settlements • Support and networking for resident activities through community approaches <p><u>Examples of cooperation projects</u></p> <ul style="list-style-type: none"> - Study on Environmental Improvement of Unplanned Urban Settlements in Lusaka (Zambia; 1999/3-2001/7) - Integrated Community Development Project for the Settlement Areas in National Capital District (Papua New Guinea; 2005/3-2007/3)
(iii) Improvement of the sanitary environment	<ul style="list-style-type: none"> • Support for development master plan formulation to analyze the current situation, sort out problems, determine the course of action, and propose specific projects <p><u>Examples of cooperation projects</u></p> <ul style="list-style-type: none"> - Project for Enhancement of Urban Development Management in the Mamminasata Metropolitan Area (Indonesia; 2009/4-2012/4)

3) Creation of low-carbon cities

Urban development is closely tied to worldwide efforts to combat global warming. For example, the CO₂ emissions from social and economic activities in cities account for half of the world's total. It is therefore essential to consider how to create a low-carbon city, particularly in rapidly urbanizing developing countries.

(i) Transformation of the urban structure

JICA helps prevent unordered, sprawling urbanization and transform the urban structure to make urban activities sustainable (to develop a so-called “compact city”) by collecting and analyzing detailed data and formulating land-use and urban development plans from a medium- to long-term perspective.

(ii) Promotion of the use of urban public transport

JICA supports a modal shift from private vehicles (two and four wheelers) and para-transit (intermediate transport services between public transit and private automobiles, such as small rideshare buses and tuk-tuks) to public transport. This shift can be made by planning and implementing structural and non-structural measures, such as developing convenient transport networks, setting appropriate fares based on passengers' characteristics, and introducing transportation demand management (TDM) measures.

(iii) Creation of a recycling-oriented society / promotion of energy-saving measures

In order to reduce water and energy consumption for urban activities and massive CO₂ emissions from the consumption, urban development support should be designed to cooperate with local residents in creating a recycling-oriented city that makes full use of water, energy, and waste resources. The possible individual approaches include introducing home and building energy-saving measures, improving the efficiency of power distribution systems, and making urban activities more environmentally

responsible.

(iv) Preservation and creation of green spaces

Recognizing green spaces as important carbon sinks, JICA supports the preservation and creation of green spaces in urban areas including suburbs. For example, JICA's support for master plan formulation may include a green space development plan, in which green infrastructure, such as roadside trees and city parks, is regarded as important social/economic infrastructure.

JICA's cooperation in the urban and regional development sector	
(i) Transformation of the urban structure	<ul style="list-style-type: none"> • Development of an urban structure plan as part of an urban development master plan to propose how to create a compact city • Training on urban planning and comprehensive urban development planning <p><u>Examples of cooperation projects</u></p> <ul style="list-style-type: none"> - Project For Updating Dakar Urbanization Master Plan by the Horizon 2025 (Senegal; 2014/8- 2016/2)
(ii) Promotion of the use of urban public transport	<ul style="list-style-type: none"> • Support for urban transport master plan formulation • Implementation of social experiments as part of urban transport master plan development studies or urban transport technical cooperation projects • ODA Loan or Grant Aid projects • Training on urban transport <p><u>Examples of cooperation projects</u></p> <ul style="list-style-type: none"> - Project for Comprehensive Urban Transport Planning in Phnom Penh Capital City (Cambodia; 2012/3-2014/6) - Knowledge Co-Creation Program (Group and Region-Focus) Course on Urban Public Transport
(iii) Creation of a recycling-oriented society / promotion of energy-saving measures	<ul style="list-style-type: none"> • Discussions in urban development master planning processes to create a recycling-oriented city according to the features of the district • Technical cooperation for energy saving homes <p><u>Examples of cooperation projects</u></p> <ul style="list-style-type: none"> - Project on Technical Improvement of Housing Energy Saving (China; 2007/6-2009/5) - Implementation support for 3R INITIATIVE of Hanoi City for Cyclical Society (Viet Nam; 2006/11-2009/11)
(iv) Preservation and creation of green spaces	<ul style="list-style-type: none"> • Development of a land-use plan as part of an urban development master plan to propose policies on the preservation of green spaces, etc.

4) Creation of disaster-resilient cities

It is important to hold discussions with diverse stakeholders from the urban planning stage, while referring to Japan's experience and lessons learned from disasters and recovery, to consider what urban structure could minimize human losses and physical destruction in the event of a natural disaster and prevent the post-disaster downturn of economic activities in cities.

(i) Urban development that prevents and controls damage on vulnerable people

JICA formulates development plans that take into account the disaster hazards and risks in vulnerable areas such as low-income settlements and densely built-up areas. JICA also helps improve urban drainage systems, fireproof buildings, reinforce the disaster resistance of urban facilities, and develop urban disaster prevention facilities.

(ii) Immediate emergency response, recovery, and reconstruction after disaster strikes

Areas stricken by disasters such as earthquakes and tsunamis usually find it difficult to provide public services or maintain livelihoods for affected people. In order to deal with these challenges, a wide range of recovery and reconstruction support is required, ranging from emergency aid immediately after the disaster strike to support for the recovery of lifeline infrastructure for affected people and medium- to long-term reconstruction assistance to rebuild the city more resilient than before the disaster. The medium- to long-term reconstruction assistance includes not only structural measures, such as hazard mapping, disaster-resilient land-use planning, and infrastructure development, but also non-structural measures, such as evacuation planning based on disaster prevention and evacuation maps, disaster preparedness training involving local authorities and communities, administrative capacity development, and establishment of rescue and relief mechanisms. Moreover, consideration should be given to make the benefits of recovery and reconstruction widely available rather than limited to a selected group of people.

JICA's cooperation in the urban and regional development sector	
(i) Urban development that prevents and controls damage on vulnerable people	<ul style="list-style-type: none"> • Support for urban development master plan formulation • Support for disaster prevention mapping <p><u>Examples of cooperation projects</u></p> <ul style="list-style-type: none"> - Study for Establishment of Base Maps and Hazard Maps for GIS (Nicaragua; 2003/10-2006/12) - Improvement of the Earthquake-Resistant Housing Construction Technology (Nicaragua; 2010/10-2013/10)
(ii) Immediate emergency response, recovery, and reconstruction after disaster strikes	<ul style="list-style-type: none"> • Recovery and reconstruction studies • Recovery and reconstruction support projects <p><u>Examples of cooperation projects</u></p> <ul style="list-style-type: none"> - Urgent Rehabilitation and Reconstruction Support Project for Haiti (Haiti; 2010/6-2011/11) - Project on Rehabilitation and Recovery from Typhoon Yolanda (Philippines; 2014/1-2016/12) - Project on Rehabilitation and Recovery from Nepal Earthquake (Nepal; 2015/6-2017/6)

5) Appropriate urban management

As the social and economic conditions are becoming increasingly complex with economic growth, urbanization, and globalization advancing at a rapid pace, it is essential to grasp the issues faced by each city and prioritize them according to the development stage of the city. Urban management plays a key role as a basis for addressing diverse risks and problems at different scales from global to local.

- (i) Urban development management
Urban development planning should take into account complex, cross-sectoral issues. JICA's planning support strengthens the capacity of competent administrative authorities to analyze the current situation, establish planning frameworks and development strategies, formulate land-use plans, develop resource allocation policies, and evaluate programs. JICA also implements technical cooperation projects to strengthen systems for implementing urban planning and managing development programs.
- (ii) Securing of financial resources and introduction of private capital
The essential key to the autonomous development of cities is to secure adequate financial resources for urban development. Because public investment can hardly cover all the costs, when preparing an urban development master plan, JICA explores the possibility of using the public-private partnership scheme to promote development projects in collaboration with the private sector in order to meet the massive infrastructure investment demand. As there is an increasing need to support public-private partnership project formation, JICA reflects the needs of the private sector in development plans by promoting the exchange of opinions at the planning stage.
- (iii) Maintenance and management of urban infrastructure
Urban infrastructure constructed in accordance with sector-specific development plans should be maintained properly over a long period of time. Therefore, JICA analyzes life-cycle costs and examines technical capacity for operation and maintenance at the planning stage of infrastructure construction to develop a project management plan that is sustainable and self-sufficient in terms of asset management. JICA also extends its support for technical development when necessary.

JICA's cooperation in the urban and regional development sector	
(i) Urban development management	<ul style="list-style-type: none"> • Technical cooperation projects for urban development capacity-building • Support for urban development master plan formulation • Training on urban management <p><u>Examples of cooperation projects</u></p> <ul style="list-style-type: none"> - Project for Urban Plan and Development Management (Malawi; 2012/11-2015/3) - Project for Urban Development Management (Laos; 2013/9-2016/9) - Knowledge Co-Creation Program (Group and Region-Focus) Course on Urban Management for Sustainable Urban Development
(ii) Securing of financial resources and introduction of private capital	<ul style="list-style-type: none"> • Proposing as an approach in urban development master planning processes to increase the feasibility of projects
(iii) Maintenance and management of urban infrastructure	<ul style="list-style-type: none"> • Proposing as an approach in urban development master planning processes to increase the feasibility of projects • Technical cooperation projects to strengthen construction quality management and enhance maintenance capacity

	<p><u>Examples of cooperation projects</u></p> <ul style="list-style-type: none"> - Project for Capacity Enhancement in Cost Estimation, Contract Management, Quality and Safety in Construction Investment Projects (Viet Nam; 2015/4-2018/3)
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6) Post-conflict urban reconstruction

Post-conflict countries face an urgent need to reconstruct basic infrastructure and reestablish social services in cities damaged by the conflict. Post-conflict urban reconstruction assistance is expected to play a significant role in freeing people from the fear of conflict recurrence and the lack of basic necessities.

(i) Formulation of comprehensive reconstruction master plans

Post-conflict countries face a variety of problems. Generally, with refugees returning home, the population grows rapidly, leading to the lack of employment opportunities. Basic infrastructure systems across a wide range of sectors have been destroyed or neglected and deteriorated. Therefore, JICA analyzes the recovery needs in all sectors to develop an urban reconstruction master plan to provide wide-ranging, comprehensive support. Some of the post-conflict countries have lost topographical maps and other basic data. In such cases, the reconstruction support starts with rebuilding database as a basis for the whole reconstruction support.

(ii) Quick recovery and reconstruction of community lifeline infrastructure

The most pressing task during the reconstruction period is to restore the function of core infrastructure damaged by the war to stabilize the livelihoods of local people. JICA provides immediate support to reconstruct basic infrastructure based on the results of damage assessment and needs analysis.

Armed conflicts often destroy communities and create long-lasting hostilities between different ethnic groups. It is therefore vital to ensure that assistance will be equally distributed by paying special attention to the distribution of ethnic groups and the status of communities when planning infrastructure and social capital reconstruction.

(iii) Restoration and reconstruction of economic infrastructure that serves as a driving force for recovery

Economic independence and stability are essential to prevent the recurrence of conflicts. JICA supports not only the restoration of basic livelihood infrastructure but also the reconstruction and rehabilitation of economic infrastructure in order to recover the functions of cities to serve as economic centers.

JICA's cooperation in the urban and regional development sector	
(i) Formulation of comprehensive reconstruction master plans	<ul style="list-style-type: none"> • Technical cooperation projects for urban development capacity-building • Support for urban development master plan formulation
(ii) Quick recovery and reconstruction of community lifeline	<ul style="list-style-type: none"> • Recovery and reconstruction studies and reconstruction support projects <p><u>Examples of cooperation projects</u></p>

infrastructure	- Master Plan Study on Urban Facilities Restoration and Improvement in Monrovia (Liberia; 2008/10-2010/3)
(iii) Restoration and reconstruction of economic infrastructure that serves as a driving force for recovery	- Project on Promotion of Kabul Metropolitan Area Development (Afghanistan; 2010/5-2015/5) - Emergency Study on the Planning and Support for Basic Physical and Social Infrastructure in Juba Town and the Surrounding Areas (South Sudan; 2006/1-2008/5) - Project for the Integrated Regional Development Plan to Support Ethnic Minorities in the South-East Myanmar (Myanmar; 2014/2-2016/11)

(2) Effective approaches to regional development

1) Regional development based on a medium- to long-term development vision / growth scenario

The important key to regional development is to determine the future direction and ideal form of development based on a broad perspective and steer development toward the vision. JICA's regional development support draws up a growth scenario and a detailed overall plan as well as develops approaches to realize them by adopting a medium- to long-term perspective and considering what social, economic, industrial, and trade structures the region needs to build to attain sustainable development.

2) Regional economic development and investment promotion

The revitalization and development of regional economies are essential to enrich the lives of local people. In order to activate regional economies, it is critical to stimulate local industries as well as foster and attract new industries and entrepreneurs. Moreover, recognizing that the outflow of labor from rural to urban areas undermines the vitality of rural areas, JICA helps develop the industries and enhance attractiveness of the regions.

The effective use of local resources and the promotion of local industries are important but sometimes not sufficient to boost regional economies. Therefore, JICA helps develop legal frameworks as well as incentive measures to attract outside investment as a trigger for regional economic development.

3) Inclusive and effective infrastructure development including social infrastructure

Infrastructure supports national and regional economic growth and redistributes the wealth so as to improve and maintain the quality of life. Infrastructure also plays a vital role in attracting private investment. Large-scale, wide-area economic infrastructure, such as roads, bridges, ports, railways, airports, power generation/transmission/distribution facilities, gas pipelines, telecommunications facilities, and irrigation facilities, serves as a basis for economic growth and contributes to poverty reduction. In addition to the construction of individual infrastructure systems, the development of infrastructure complexes, such as industrial parks, is an effective approach to attract new industries that will form the core of the regional economy. In addition to infrastructure that supports regional economies, social infrastructure essential to daily life, such as water supply and sewage systems, schools, medical institutions, and social welfare facilities, should be developed to improve the quality of community life.

4) Strengthening of regional economic and social linkages and reduction of regional disparities

Transborder issues that cannot be solved by conventional approaches confined within national, regional, or municipal boundaries have emerged, such as the progress of globalization, the promotion of regional integration and economic alliance, the development of cross-border infrastructure, and global environmental problems beyond national and regional boundaries.

Corridor development, consisting of the construction of corridor infrastructure and the promotion of industries along the corridor, is considered as one of the most effective approaches, especially in reducing regional disparities between inland and coastal areas, leveraging human and other potential resources in inland areas, and exploiting transport potential in coastal areas.

Corridor development should not be regarded as a mere improvement of transport between inland and coastal areas or industrial development along corridors. It should be considered as a trigger to develop and revitalize the surrounding region as a whole. It is therefore important to incorporate the perspective of regional development so that corridor development can benefit not only areas along the corridor but also surrounding areas.

5) Institutional development and capacity building for regional development

The above-mentioned approaches cannot exert their effects without institutional, organizational, and human resources development in administrative authorities and other parties involved in regional development.

Although regional development is planned by administrative authorities such as central and local governments, many developing countries have not established regional development planning or implementation systems. Many have not even defined the concept or scope of regional development or determined where the responsibility lies. There is also a need to develop legal frameworks, regional administrative systems, and other mechanisms to promote regional development.

Another important task is to strengthen implementation capacity after the planning stage. Although many developing countries are pursuing decentralization policies, a number of problems are left unsolved, such as financial vulnerability, institutional underdevelopment, and poor implementation mechanisms. It is therefore vital to create an environment for autonomous regional development by supporting institutional and financial development, strengthening linkages between the central and local governments, and fostering human resources.

In order to promote regional development, consideration should be given to not only intra-regional but also inter-regional division of responsibilities, competition, and collaboration. Moreover, regional development needs to adopt a transversal and comprehensive perspective across different sectors in the region. It is therefore essential to establish a transversal framework such as associations of municipalities and strengthen cross-sectoral efforts.

Another important key is organizational and human resources development that enables public organizations, businesses, communities, and individuals to collaborate while playing their respective roles in regional development. Human resources development should be designed to increase both quantity (to foster public administrative officers as well as promote the participation of private companies, communities, and individuals) and quality (to meet diverse and complex needs).

JICA's cooperation in the urban and regional development sector	
<p>1) Regional development based on a medium- to long-term development vision / growth scenario</p> <p>2) Regional economic development and investment promotion</p> <p>3) Inclusive and effective infrastructure development including social infrastructure</p>	<ul style="list-style-type: none"> • Support for regional development master plan formulation • Support for regional promotion / economic development master plan formulation • Training on regional development <p><u>Examples of cooperation projects</u></p> <ul style="list-style-type: none"> - Project on Regional Development Planning of the Southern Region (Tunisia; 2013/4-2015/12) - Knowledge Co-Creation Program (Group and Region-Focus) Courses on National and Regional Development Policy; and General Management for Regional Development and Planning
<p>4) Strengthening of regional economic and social linkages and reduction of regional disparities</p>	<ul style="list-style-type: none"> • Support for corridor development master plan formulation <p><u>Examples of cooperation projects</u></p> <ul style="list-style-type: none"> - Project for Formulation of Master Plan on Logistics in Northern Economic Corridor (Kenya & Uganda; 2015/3-2016/8) - Project for Nacala Corridor Economic Development Strategies (Mozambique; 2012/3-2016/1) - Project on the Corridor Development for West Africa Growth Ring Master Plan (Ghana, Cote d'Ivoire, and Togo; 2015/6-2017/3)
<p>5) Institutional development and capacity building for regional development</p>	<ul style="list-style-type: none"> • Regional development master plan formulation for propositions and technical cooperation support • Support for the establishment of public, private, community, and individual collaboration mechanisms <p><u>Examples of cooperation projects</u></p> <ul style="list-style-type: none"> - Project on the Reinforcement of Communities for Promoting Social Cohesion in Greater Abidjan (Cote d'Ivoire; 2013/7-2016/6) - Project on Rehabilitation and Recovery from Typhoon Yolanda (Philippines; 2014/1-2016/12) - Project for the Integrated Regional Development Plan to Support Ethnic Minorities in the South-East Myanmar (Myanmar; 2014/2-2016/11) - Knowledge Co-Creation Program (Group and Region-Focus) Course on General Management for Regional Development and Planning

Chapter 3. Direction of JICA's Cooperation

Urban and regional development takes different strategies and approaches according to the development issues it is dealing with. Individual issue-specific approaches, however, cannot alone solve the root causes of the problems faced by cities and regions or remove the bottlenecks to their development. It is vital to combine various problem-solving factors, according to the issues to be addressed, to develop strategies and approaches as a comprehensive program that best suits the actual conditions of target cities and regions. Individual projects should be implemented and managed under this comprehensive program so that individual measures will be applied effectively and efficiently as well as integrated organically to produce synergistic and cumulative effects.

3-1. JICA's focal approaches and considerations

(1) JICA's strategies and basic policies in the urban and regional development sector

1) Creation of sustainable cities

As in the past, JICA will continue to provide support that best suits the needs of each city or region by taking into account their development stages and characteristics. In addition, recognizing that cities may have a negative impact on the sustainability of the global environment, JICA will extend its support to include approaches to global issues in order to help create *sustainable cities*. In this approach, “Urbanscope”, an urban diagnostic tool developed through the Project Study “The Research on Sustainable Cities in Developing Countries” (JICA; 2015), will be used to develop a comprehensive solution prescription and a policy package. Moreover, in light of new disaster risks arising from development, JICA will work to strengthen the comprehensive management capacity of municipalities in developing countries.

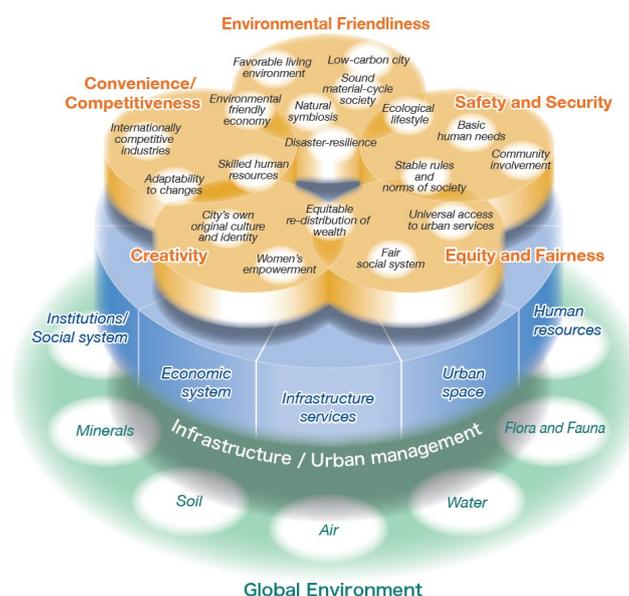


Figure: Concept of a sustainable city

2) Promotion of environmental protection and disaster risk management

In light of recent developments such as the Paris Agreement and the UN World Conference on Disaster Risk Reduction in Sendai, JICA will extend its support for master plan formulation to include environmental protection and disaster risk management suitable to the characteristics of target cities, in addition to conventional efforts to develop spatial plans (e.g. land-use plans) and infrastructure development plans (e.g. urban transport plans).

3) Disparities reduction and development

In order to ensure that urban and regional development will eliminate regional disparities, it is critical to achieve the balanced development of the whole country or region so that everyone can access basic social services. Therefore, JICA will promote support for national spatial development planning to formulate development concepts, including land-use adjustment, industrial distribution, and infrastructure allocation, from a wider perspective encompassing the whole country or region by drawing on Japan's experience in national development processes from the National Comprehensive Development Plan through to the National Spatial Strategies comprising comprehensive/basic policies on national land use. Moreover, JICA will support corridor development, namely, strategic regional development centered on artery roads (corridors) playing a key role in national and regional economies to create a driving force for sustainable and resilient regional growth. This support will consist of the following two components: (i) formulating a corridor development master plan to identify industrial potential and develop a growth scenario from a long-term perspective; and (ii) supporting structural and non-structural measures, including systematic infrastructure development, customs clearance and other institutional improvement, trade and investment promotion, and industrial human resources development.

4) Collaboration with local governments, etc. to develop legal frameworks for urban development and use their know-how

The experience of Japan as a pioneer in taking on new challenges, as well as its legal frameworks for urban development and the relevant know-how and technologies of Japanese local governments and private companies, is highly useful to solve urban issues complexed year by year. JICA will cooperate with Japanese local governments and other institutions to assist developing countries in strengthening their capacity to solve urban problems and properly control the development and maintenance of cities. Meanwhile, JICA will aim to make the cooperation "mutually beneficial", for example, by introducing the good practices of other countries to Japan.

5) Post-disaster and post-conflict reconstruction support

In order to support reconstruction after natural disasters and armed conflicts around the world, JICA will design its urban and regional development projects to include preventive measures by drawing on Japan's experience and lessons learned in large scale disasters and on JICA's experience and lessons learned in reconstruction assistance in the peace-building and disaster management sectors.

JICA's strategies, basic policies and cooperation projects in the urban and regional development sector

1) Creation of sustainable cities

(i) Urban development and management aimed to achieve a sustainable global environment, e.g. by creating low-carbon cities

Urban issues faced by developing countries have a significant impact not only on the cities themselves but also on global warming and other global environmental problems. Nevertheless, many of the municipalities in developing countries are so preoccupied with their pressing problems that they rarely pay attention to global environmental issues in urban and regional development processes. It is therefore important to promote urban development and management that take into account not only the improvement of urban environments and the enhancement of competitive strength among other cities but also the sustainability of the global environment.

- Examples of cooperation projects: Project for Promoting Sustainability in Future Cities of Thailand (2015/7-) and Project for Strengthening the Capacity on Sustainable Urban Development in Brazil

(ii) Integrated development of public transport lines and surrounding cities by drawing on the experience of Japan in transit-oriented development (TOD)

Japan has created public transport-oriented cities that are not over-dependent on automobiles by locating commercial facilities around train stations in city centers and developing residential areas around train stations and railway lines in suburbs. JICA will use this experience to support the efforts of developing countries.

- Examples of cooperation projects: Project for Improving Public Transportation in Iran (tentative name)

2) Promotion of environmental protection and disaster risk management

(iii) Development of resilient cities with comprehensive know-how and disaster risk management functions by drawing on Japan's experience in natural disasters, such as the Great Hanshin-Awaji Earthquake and the Great East Japan Earthquake, and post-disaster and post-conflict reconstruction support in developing countries.

- Examples of cooperation projects: Project on Rehabilitation and Recovery from Nepal Earthquake in Nepal, Project on Rehabilitation and Recovery from Typhoon Yolanda in the Philippines, etc.

(i) Urban development and management aimed to achieve a sustainable global environment, e.g. by creating low-carbon cities (relisted)

(ii) Integrated development of public transport lines and surrounding cities by drawing on the experience of Japan in transit-oriented development (TOD) (relisted)

3) Disparities reduction and development

(iv) Strategic corridor development approach to create a driving force for sustainable and resilient regional growth (Japan Brand)

Recognizing corridors as axes for national and regional growth, JICA will support the formulation of corridor development strategies to enhance transport capacity and regional development as mutually complementary driving forces for the economic growth of the region as a whole.

- Examples of cooperation projects: Project for Formulation of Master Plan on Logistics in Northern Economic Corridor, Project on the Corridor Development for West Africa Growth Ring Master Plan, etc.

(v) Sustainable spatial planning aimed to achieve balanced national development

- Examples of cooperation projects: Project for Formulation of Comprehensive

Development Plan for Bhutan 2030 (tentative name)
4) Collaboration with local governments, etc. to develop legal frameworks for urban development and use their know-how
(vi) Land readjustment and urban redevelopment by drawing on Japan's urban development systems as well as its experience and know-how in urban development Japan has designed land readjustment and urban redevelopment projects which are the urban development methodologies to be implemented by applying an equivalent right exchange scheme as an alternative to a land purchase scheme and to ensure the fair distribution of benefits and burdens. JICA will use this experience to develop the capacity of developing countries to implement urban development projects. - Examples of cooperation projects: Project for Improvement of Capacity for Implementation of Ulaanbaatar Master Plan in Mongolia, Project on Capacity Development for Land Readjustment in Curitiba in Brazil, Project for Self-Sustainability and Dissemination of Land Readjustment System in Thailand, etc.
5) Post-disaster and post-conflict reconstruction support
(iii) Development of resilient cities with comprehensive know-how and disaster risk management functions by drawing on Japan's experience in natural disasters, such as the Great Hanshin-Awaji Earthquake and the Great East Japan Earthquake, and post-disaster and post-conflict reconstruction support in developing countries (relisted)

(2) Focal approaches

“Promotion of Integrated Support from Upstream to Downstream to Make Master Plans a Reality”

JICA has made good use of its three cooperation schemes to provide integrated support from upstream (support for the formulation of urban/regional development master plans as a basis for comprehensive urban development) to downstream (financial assistance for individual infrastructure projects to make the master plans a reality, technical cooperation for urban management capacity development and infrastructure maintenance personnel training, etc.).

JICA is the only development partner that provides integrated support, not only designing development master plans as a basis for urban development but also putting the plans into action. JICA will continue to take the same approach since the confidence Japan has earned through this cooperation can create a favorable environment for Japanese companies entering overseas markets.

Going forward, JICA will place more emphasis on downstream support to make master plans a reality. This does not simply mean supporting individual infrastructure construction projects. In this approach, JICA assesses the sustainability of target cities to select and prioritize requirements they need to meet, among the “five requirements for sustainable cities” ((i) equity and fairness; (ii) safety and security; (iii) environmental friendliness; (iv) convenience and competitiveness; and (v) creativity (see Figure: Requirements for sustainable cities in “3-1 (1) 1) Creation of sustainable cities”)), and implements programs, including phased infrastructure construction, institutional development, and urban management capacity building, so that they can meet the requirements to become a sustainable city. Moreover, in order to further ensure the realization of master plans, JICA will promote an inclusive planning process by using an opportunity of strategic environmental assessment at the upstream planning phase (e.g. when defining a future vision for urban development) to promote the participation of local residents and various other stakeholders.

To achieve these ends, JICA will strategically use its Knowledge Co-Creation Program (Group and Region-Focus) to create opportunities for different cities in different countries to learn from one another's various experiences and share new knowledge obtained through the Science and Technology Research Partnership for Sustainable Development (SATREPS) and other programs. Moreover, by promoting public-private dialogue at each stage of the process, JICA will offer opportunities to use the funds and know-how of Japanese firms to create sustainable cities.

Examples of opportunities for mutual learning

(i) Platform building through Knowledge Co-Creation Program (Group and Region-Focus) and Invitation Program

- Knowledge Co-Creation Program (Group and Region-Focus) Course on Inter-city Cooperation Platform for Creating Sustainable Cities (2016-2018)

This is a “co-creation” platform for participants to learn from one another and share latest knowledge, experiences, and practices in relation to urban and global issues and sustainable city development. This training course also aims to promote “co-evolution” through which cities are linked with one another to develop new inter-city initiatives and create new values as well as undergo change together building stable relationships.

(ii) International Seminar on Urban Development in Asia and Africa

JICA has been holding an annual seminar on urban development since 2011 to share knowledge and experiences among Asian and African countries. This seminar continuously offers opportunities to exchange information and opinions on challenges in planning and implementation of urban development, with a focus mainly on cities that received assistance from JICA in drafting urban development master plans.

One of the major concerns/issues recently shared by many cities is the difficulty of implementing master plans after they are adopted; therefore, the seminar continues the discussion on how to move from planning to implementation and shares knowledge and experiences.

- The first seminar was held in Dakar in Nov. 2011; the second in Hanoi in Feb. 2012; the third in Kumasi in Oct. 2012; the fourth in Accra in Apr. 2013; the fifth in Abidjan in Mar. 2014; and the sixth in Mombasa in Nov. 2015.

(3) Efforts for Sustainable Development Goals (SDGs)

JICA's cooperation strategies and policies in the urban and regional development sector aim to contribute to the following targets to achieve SDG 11 to “make cities and human settlements inclusive, safe, resilient and sustainable” while monitoring its contribution to and positive and negative impacts on other Goals.

1) Creation of sustainable cities

2) Promotion of environmental protection and disaster risk management

11.3 By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries

11.2 By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons

11.6 By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other

waste management

3) Disparities reduction and development

11.a Support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning

4) Collaboration with local governments, etc. to develop legal frameworks for urban development and use their know-how

11.1 By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums

11.7 By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities

5) Post-disaster and post-conflict reconstruction support

11.5 By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations

3-2. Issues for further consideration

JICA is working to improve the quality of its urban and regional development support while implementing individual projects to address priority issues. Moreover, JICA conducts project studies to develop specific approaches to urban and regional development. The main themes of the studies are outlined below.

(1) Feasibility of urban development master plans

In order to promote urban development based on master plans, JICA will conduct a study to identify lessons learned to improve the feasibility of master plans. The study is to examine how the master plans developed by JICA have been used and what challenges have arisen in implementing them while reviewing the efforts of administrative authorities responsible for urban development and enactment of urban planning laws, as well as relevant donors and private companies.

(2) Cross-border regional development assistance from the viewpoint of corridor and urban development

While an increasing number of projects are formulating corridor development master plans from a medium- to long-term perspective or from a wide regional perspective in South Asia and Africa, JICA will conduct a study to identify lessons learned from its past projects to make the corridor approach more effective. The study is to reassess the outcomes of JICA's long-standing support for urban/regional development master plan formulation and cross-border infrastructure development along corridors, such as the East-West Economic Corridor and the Southern Economic Corridor in the Mekong region, as well as JICA's experience in contributing to regional development, to systemize the corridor approach (examining its impacts and effectiveness, redefining its concept, re-establishing its planning policies, and listing points to consider). The results of the study will be used to

improve the quality of the corridor approach and disseminated widely to facilitate the formation of new projects.

(3) City assessment methods

The Project Study “Research on Sustainable Cities in Developing Countries” (March 2015) put forth a comprehensive urban diagnostic tool (known as Urbanscope) to develop sustainable city policies. Still, there is a need to improve the city assessment method, in line with the Sustainable Development Goals (SDGs) as well as recent trends in inter-city competition and city assessment, such as city performance assessment based on the global city index, to define a future vision in urban development master plans and ensure their proper management and operation after the planning phase.

Appendixes

1. Basic Check Items
2. Major Donors' Activities

Appendix 1. Basic Check Items

This section provides a list of typical items to check in fact-finding and other surveys for urban development to identify the actual conditions and problems of cities. Although the check items vary depending on the social conditions and development needs of target areas, the table below shows general ones.

Examples of Check Items

1. Social and economic conditions	1-1. Population	1) Population size	(1) Total population, population growth, and number of households (2) Details of population changes (e.g. social and natural increase) (3) Future population projections (4) Future household projections
		2) Population distribution	(1) Population numbers and changes by district (2) Population density by district
		3) Population structure	(1) Population numbers by age and sex (2) Population numbers by industry (3) Population inflows and outflows (incoming and outgoing commuters)
	1-2. Industry	1) Industrial sector (business establishment / employee numbers and shipment values by industry) 2) Commercial sector (scale and distribution of shopping areas, commercial sale values, distribution of big stores, marketing areas, and consumer behavior patterns) 3) Tourism sector (tourist facilities, tourism resources, and changes in tourist numbers) 4) Agriculture, forestry and fisheries sectors (agricultural working populations, main agricultural products and markets)	
	1-3. Urbanization	1) Urbanization trends (building density, densely populated areas, defective buildings, etc.) 2) Housing (household size, average floor area, floor levels (high/middle/low), housing types (detached/apartments))	
	1-4. Community	1) Resident's organizations and other community activities	
2. Land use	2-1. Geographical features	1) Geographical features and water systems	
	2-2. Land-use patterns	1) Land-use patterns by purpose (residential, commercial, mining, agricultural, and forestry areas, rivers, roads, public facilities, etc.) 2) Regulated zones (city planning zones, etc.) 3) Publicly-owned land	

3. Natural features	3-1. History, nature and culture	1) History of city development 2) Historical assets (historic and scenic sites, natural monuments, temples, shrines, etc.) 3) Distribution of cultural assets, etc.
	3-2. Natural environment	1) Fact-finding on the natural environment and distribution of precious species 2) Occurrence of disasters, etc.
	3-3. Landscape	1) Good landscape factors
4. Transport infrastructure	4-1. Road conditions	1) Current conditions and development of road networks 2) Road width 3) Traffic volumes on main roads and streets (automobiles and pedestrians) 4) Parking spaces 5) Future plans
	4-2. Public transport systems, etc.	1) Bus transport (bus routes, stops, operating frequency, use rates) 2) Other public transport (minibuses, rideshare taxis, etc.) 3) Railway lines, stations, and passenger volumes 4) Future plans 5) Operation and maintenance entities
5. Parks and green spaces	5-1. Parks and green spaces	1) Current conditions and area of parks and green spaces 2) Use rates by type 3) Future plans 4) Operation and maintenance entities
6. Utilities infrastructure	6-1. Rivers and waterways	1) Current conditions and length 2) Future plans 3) Operation and maintenance entities
	6-2. Sewage works	1) Rainwater drainage facilities (development progress and plans) 2) Sewage facilities (development progress and plans) 3) Operation and maintenance entities
	6-3. Waterworks	1) Development progress 2) Development plans 3) Operation and maintenance entities
	6-4. Solid waste management facilities, etc.	1) Solid waste management facilities (development progress and plans) 2) Other facilities (electric power and gas supply facilities, etc.)
7. Public service facilities	7-1. Educational facilities	
	7-2. Administrative service facilities	
	7-3. Community facilities	
	7-4. Firefighting facilities	
	7-5. Other public service facilities (medical and welfare facilities)	

8. Upstream plans	8-1. National development plans	
	8-2. Provincial, prefectural, and regional development plans	
	8-3. Other relevant plans	
9. Legal and organizational structures	9-1. Urban planning	<ul style="list-style-type: none"> 1) Urban planning laws 2) Urban area zoning 3) Existing regulations (land-use regulations, building codes, development regulations, etc.) 4) Presence and effectiveness of urban planning laws, building codes, and other regulations
	9-2. Other development regulations	<ul style="list-style-type: none"> 1) Development-related laws and regulations 2) Presence and effectiveness of road-design and other technical standards
	9-3. Organizational structures	<ul style="list-style-type: none"> 1) Urban planning / development and organizations involved in development 2) Authorities given to the above-mentioned organizations
	9-4. Resident participation	<ul style="list-style-type: none"> 1) Presence of resident participation mechanisms 2) Efforts to promote resident participation

Appendix 2. Major Donor's Activities

1) World Bank

The World Bank made a commitment of approximately 2.15 billion USD per year to urban development between 2004 and 2008 and then almost doubled it to 4.11 billion USD per year between 2009 and 2013. This indicates that the World Bank is placing an increasing emphasis on urban development.

The World Bank's work in urban development aims to "build sustainable cities and communities through an urbanization process that is inclusive, resilient, productive, and livable, in line with the World Bank's goals to end extreme poverty and boost shared prosperity." To this end, the World Bank has structured its urban development support around the following three pillars:

- (1) Strengthening city finances, planning, and governance systems;
- (2) Improving different dimensions of living conditions for people – infrastructure services, tenure, housing, and neighborhoods; and
- (3) Supporting urban transformation through improved urban and land-use planning, management, and implementation of integrated investments in infrastructure and service delivery in a manner that can improve urban space and impact city form over the long run.

Under these three pillars, the World Bank provides support by means of (i) technical assistance, knowledge sharing, and analysis; (ii) communication / dissemination; and (iii) finances. The work is categorized into the following six business lines:

- (1) Cities and economic growth;
- (2) Urban poverty and inclusion;
- (3) Municipal infrastructure and services;
- (4) Affordable housing and land;
- (5) Urban management, finance, and governance; and
- (6) Cities and urban environment.

The World Bank is also putting effort into building the resilience of cities, including mitigating the effects of climate change on cities and reducing disaster risks, promoting low-carbon programs and investments, and increasing the access to infrastructure finance to create a low-carbon society.

Recently, the World Bank launched the Global Platform for Sustainable Cities (GPSC). It is a knowledge-sharing program involving various cities, multilateral development banks, UN agencies, and other organizations. The GPSC aims to promote an integrated approach to urban planning, financing, and implementation by assisting municipalities in strengthening their capacity to attract private investment and formulate bank-financed projects.

According to its project database, the World Bank sometimes merges urban infrastructure systems of different sectors (e.g. water supply, sewage, and road sectors) into a single project but unlike JICA, the World Bank rarely implements an urban master planning project that includes land-use planning to suggest a long-term vision on what the ideal form of the city would be and how to realize it. When the World Bank helps formulate a land-use plan, the scope of the work is limited to providing guidance on land use and development to increase the ridership of core transport in target cities (e.g. BRT) and does not include support for statutory urban planning.

2) Asian Development Bank (ADB)

The ADB is also engaged in urban sector support under the theme of “urban development.” Since it started in the late 1960s, the ADB has implemented approximately 200 projects worth approximately 15 billion USD in total. The finance for urban development projects represents about 11% of the total ADB loan. The project-based financial and technical assistance has mostly focused on urban infrastructure, such as water supply, sanitation, and solid waste management.

The ADB designs urban development projects in line with the following two documents: (i) Strategy 2020 and (ii) Urban Operational Plan (UOP) 2012-2020. The former sets the overall vision of the Bank while the latter describes the direction of its urban development operations.

Strategy 2020 sets three strategic agenda: (i) inclusive economic growth; (ii) environmentally sustainable growth; and (iii) regional integration. It also suggests that ADB focus its operations on the following five drivers of change: (i) private sector development; (ii) good governance and capacity development; (iii) gender equity; (iv) knowledge solutions; and (v) partnerships. Moreover, Strategy 2020 emphasizes climate change and livable cities as important issues across the sectors.

The ADB presented the executive summary of UOP 2012-2020, based on Strategy 2020, at the Asian Urban Forum 2011: Financing Future Cities in November 2011.¹ According to the presentation, the UOP’s main theme is “3E (economy, environment, and equity) basics: green, inclusive, and competitive cities.” Under this theme, the ADB focuses its operations on (i) providing appropriate livelihood, service, shelter, and infrastructure solutions to poor and vulnerable communities (building inclusive cities); (ii) providing strategic physical, social, and institutional infrastructure for inclusive growth (building the economy); and (iii) developing resource use-efficient and climate change-resilient cities (promoting improved environment and resilience).

UOP (executive summary) states that ADB will focus its resources on secondary cities (with a population of several million), while continuing its support to megacities (with a population of over 10 million) facing remarkable environmental and social problems, because most secondary cities lack the administrative capacity to deal with their growing populations.

The ADB is characterized by giving priority to regional cooperation. This is because it wants to leverage its organizational strength for regional cooperation. Examples of this approach include the Greater Mekong Subregion (GMS) Program and the Central Asia Regional Economic Cooperation (CAREC) Program. As part of the GMS Program, the GMS Corridor Towns Development Project has been formulated and implemented.

The above is a general description only. In principle, individual urban development projects are formulated at the regional and national levels, in accordance with the Country Partnership Strategies (CPS) revised every five years. Thus, urban development projects are designed in line with the above-mentioned UOP and CPS. In addition, because urban development involves multiple sectors, projects are aligned with the relevant sector-specific policies. For example, urban water supply and sewage projects are consistent with Water Operational Plan 2011-2020, while environmental improvement projects with Environment Operational Directions 2013-2020.

Note 1. UOP was prepared based on the understanding that while “cities that help lift many people out of poverty by acting as centers for economic growth are essential to all people,” “the existing and emerging urban problems are remarkable” and “the past efforts of the ADB did not necessarily achieve the expected results and therefore, further cooperation will be required.”

3) French Development Agency (Agence Française de Développement; AFD)

- Urban development assistance policies

AFD also provides support for urban development. Its assistance strategy, “AFD and Urban Development,” structures the support around the following five pillars: (i) improving the economic environment and attractiveness of cities; (ii) alleviating poverty and helping vulnerable urban areas; (iii) strengthening local authorities’ independence and resources; (iv) decentralized cooperation; and (v) protecting the environment. The actual amount incurred for urban development and infrastructure projects in 2014 was approximately 240 billion yen, or approximately 27% of the newly committed amount.

- Features of AFD’s urban development assistance

The urban development work of AFD is characterized by providing finance not to central ministries but to local governments (municipalities) for implementing urban development projects (e.g. water supply, sewage, solid waste management, and electric power projects). This is because AFD considers it effective and efficient to strengthen the capacity of local governments as they are the ones who are facing urban problems and responsible for solving and managing them.

Based on the above-mentioned policy, AFD implemented the Program for Strengthening the Capacity of the Municipality and Communities of Nouakchott in Mauritania (2006-2011). The Program provided the Urban Community of Nouakchott (Communauté Urbaine de Nouakchott; CUN) with a loan of approximately 800 million yen for (i) constructing roads (with a length of about 21 km) in the city; (ii) establishing an urban development fund for nine communities; and (iii) developing infrastructure.

- Possibility of collaboration with AFD

JICA has implemented Nouakchott City Urban Master Plan Development Project since November 2016 to create a sound urban environment in Nouakchott. This project aims to (i) formulate a Master Plan for Urban Development (Schéma Directeur d'Aménagement Urbain; SDAU) toward 2040; (ii) develop a Local Urban Plan (Plan Local d'Urbanisme; PLU) as a detailed plan for the pilot project; and (iii) strengthen the planning capacity of the counterpart organization through the activities (i) and (ii).

Meanwhile, at present, AFD is not implementing any urban development project in Nouakchott. As mentioned above, AFD supported secondary trunk road development. The scope of the work was limited to secondary road development, rather than financing primary road construction, because road development should have been in line with the course of action or road network development plan defined in strategy papers, such as SDAU, but there was no such document at that time.

Therefore, JICA is exploring the possibility of collaboration where AFD will provide financial assistance for infrastructure development (downstream) while JICA will develop the SDAU and PLU to articulate the structure of the city, the direction of urban development, and the land-use plan from a long-term perspective (upstream).